Impact in hospitalization costs of a cardiovascular risk management program in Colombia: a propensity score matching model

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Abstract

Cardiovascular diseases (CVD) are the leading cause of death and burden of disease in Colombia and globally. In 2017, CVD represented the 12% of total DALYs. CVD is a costly disease from patient, family and societal perspectives. Effective prevention and risk management programs reduces the incidence of CVD by as much as 80%. We aimed to estimate the impact of direct medical hospitalization costs related to adherence in a risk management program in Colombia, 2018. We retrospectively collected data from 6,243 patients with data of enrollment in a cardiovascular risk management program (DTC, in Spanish) of a subsidized insurer, who presented arterial hypertension (AH) or AH+ type 2 diabetes mellitus (DM2). 1,065 were identified adherent to the program (treated) and 5.178 non adherent (controls). We designed a propensity score matching model adjusted with confounding variables to estimate the effect of treatment (program adherence) over hospitalization cost. Costs were calculated based on hospitalization invoices and expressed in Colombian pesos (COP) 2018. DTC has an average negative effect on cost of treated population. Being treated avoids hospitalization costs; these results were statistically significant at the 5% and 10% level (with 95%CI that goes through zero). Hence, being in the DTC program reduces hospital costs that ranges from COP-$ 11,346,372 to -$ 799,259 (95%CI) compared to the average cost. The overall impact on program costs is a significant saving of COP583,670 per event-year. If all members of the DTC program fulfilled its activities by more than 80%, the savings generated by the program would be close to COP$ 6.85 billion. DTC risk management program reduces direct hospitalization costs of events associated to CVD. Our results are important to design policies focused on the cost and risk management of patients with CVD in poor population.

Keywords

Hospitalization, Costs, Cardiovascular risk, Colombia.